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## List of abbreviations

Å	= Angstrom unit ( 1 Å = 10 <sup>-10</sup> meter )
A.R. grade	= Analytical reagent grade
azpy	= 2-(phenylazo)pyridine
azpym	= 2-(phenylazo)pyrimidine
bpy	= 2,2'-bipyridine
CH <sub>2</sub> Cl <sub>2</sub>	= dichloromethane
cm <sup>-1</sup>	= wavenumber
CV	= Cyclic voltammetry
d	= doublet
dd	= doublet of doublet
ddd	= doublet of doublet of doublet
DMF	= <i>N,N</i> -dimethylformamide
DMSO	= Dimethyl sulfoxide
FAB	= Fast atom bombardment
g	= gram
h	= hour
Hz	= hertz
IR	= Infrared
K	= Kelvin
m	= multiplet
mg/mL	= milligram per milliliter
mL	= milliliter
MLCT	= metal-to-ligand charge-transfer
mmol	= millimol
mV/s	= millivolt per second

### List of abbreviations (continued)

MW.	= molecular weight
m/z	= a value of mass divided by charge
nm	= nanometer
NMR	= Nuclear Magnetic Resonance
phen	= 1,10-phenanthroline
ppm	= part per million
Rel. Abun.	= relative abundance
s	= singlet
t	= triplet
TMS	= tetramethylsilane
UV	= Ultraviolet
°	= degree
$\lambda$	= wavelength
$\epsilon$	= molar extinction coefficient

## THE RELEVANCE OF THE RESEARCH WORK TO THAILAND

The research work is part of the basic research. The  $\alpha$ -[Ru(azpy)<sub>2</sub>Cl<sub>2</sub>] complex showed a very high cytotoxicity but it was poorly soluble in water. Therefore, the water-soluble compounds,  $\alpha$ -[Ru(azpy)<sub>2</sub>L]<sup>2+</sup> L = azpy, azpym, phen and bpy, were synthesized. The compounds were purified by column chromatography and characterized by spectroscopic, electrochemical and X-ray diffraction methods. This work help to know techniques for characterized compounds. This research work will further the goal of developing this compound or its analogues into antitumor activity.